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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,495	07/30/2003	Aaron Beddes	4-400	9685

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EXAMINER

SHERMAN, STEPHEN G

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/630,495

Applicant(s)

BEDDES ET AL.

Examiner

Stephen G. Sherman

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Correa et al. (US 2003/0201952).

Regarding claim 1, Correa et al. disclose a method of driving an electronic display including a plurality of display elements, including the steps of: dividing a refresh cycle into a plurality of shift cycles (Figure 1 and paragraph [0034]. The examiner interprets that the frame duration is a refresh cycle since every frame new information is written which “refreshes” what is on the display, and as seen in Figure 2 is divided into different “shift” cycles shown as 1, 2, 4, 8, 16, 32, 64 and 128 which are called sub-fields.); driving the display elements of said plurality for a number of shift cycles chosen from said plurality of shift cycles, said number being determined by the intensity of a color sought to be displayed in the display elements (Figure 2 and paragraphs [0034] and [0041]. The examiner interprets that since the sub-field code determines whether

or not a sub-field is activated that certain sub-fields would be chosen from the plurality to be driven, and that this would be determined by the intensity, or luminescence sought to be displayed.); and disabling the electronic display for a fraction of a subset of said plurality of shift cycles in order to provide an increased number of possible intensities of the color sought to be displayed, wherein said fraction is greater than zero and less than one and wherein said subset is at least one shift cycle (Figure 2 and paragraphs [0035-0038]. The examiner interprets that the erase portion of the sub-fields would occur for a fraction of the sub-field which would be between zero and one, and that this erase period would have the display "disabled" since there writing to the display would not occur during this interval.).

Regarding claim 4, Correa et al. discloses an electronic display including a plurality of display elements, comprising: means for dividing a refresh cycle into a plurality of shift cycles; means for driving the display elements of said plurality for a number of shift cycles chosen from said plurality of shift cycles, said number being determined by the intensity of a color sought to be displayed in the display elements; and means for disabling the electronic display for a fraction of a subset of said plurality of shift cycles in order to provide an increased number of possible intensities of the color sought to be displayed, wherein said fraction is greater than zero and less than one and wherein said subset is at least one shift cycle (The examiner understands that since Correa et al. describe the method for accomplishing the method as recited in claim 1, that the electronic display disclosed by Correa et al. would also comprise means for accomplishing those methods.).

Regarding claim 7, Correa et al. disclose a method of pulse-width-modulation for driving a display which includes the step of dividing a refresh cycle into a plurality of shift cycles (Figure 2 and paragraph [0034]. The examiner interprets that the frame duration is a refresh cycle since every frame new information is written which “refreshes” what is on the display, and as seen in Figure 2 is divided into different “shift” cycles shown as 1, 2, 4, 8, 16, 32, 64 and 128 which are called sub-fields.) and further includes the step of disabling the display for a portion of at least one shift cycle, said portion being greater than zero and less than one (Figure 2 and paragraphs [0035-0038]. The examiner interprets that the erase portion of the sub-fields would occur for a fraction of the sub-field which would be between zero and one, and that this erase period would have the display “disabled” since there writing to the display would not occur during this interval.).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2674

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 2-3, 5-6 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Correa et al. (US 2003/0201952) in view of Takagi (US 6,646,654).

Regarding claims 2 and 5, Correa et al. disclose the method of claims 1 and 4. Correa et al. fail to teach of a method wherein said display elements are light emitting diodes. Takagi discloses a method of pulse width modulation wherein the display elements are light emitting (Figure 4 and column 7, lines 3-7). Therefore it would have been obvious to "one of ordinary skill" in the art to replace the plasma display cells described by Correa et al. with the LED configuration of Takagi since LEDs can perform at high luminescence levels and are available at low prices.

Regarding claims 3 and 6, Correa et al. and Takagi disclose the method of claims 2 and 5. Takagi also discloses wherein said step of driving the display elements applies substantially constant current to said display elements during said number of shift cycles during which said display elements are driven and the display is not disabled (Figure 2 and column 1, lines 58-67. The examiner interprets that the period in which the direct current, i.e. constant current, is applied is when the display is driven.).

Regarding claim 8, Correa et al. disclose the method of claim 7. Correa et al. fail to teach of a method wherein said display includes a plurality of light emitting diodes (Figure 4 and column 7, lines 3-7). Therefore it would have been obvious to "one of ordinary skill" in the art to replace the plasma display cells described by Correa et al. with the LED configuration of Takagi since LEDs can perform at high luminescence levels and are available at low prices.

Regarding claim 9, Correa et al. and Takagi disclose the method of claim 8. Takagi also discloses wherein said light emitting diodes are driven by modulating between a substantially constant current and a zero current, said shift cycles providing a period of modulation (Figure 2 and column 1, lines 58-67).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2674

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SS

28 October 2005


REGINA LIANG
PRIMARY EXAMINER